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10/678,657	10/03/2003	Kirk Michael Bresniker	200208655-1	9753

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EXAMINER	
STOYNOV, STEFAN	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/678,657	BRESNIKER ET AL.	
	Examiner	Art Unit	
	Stefan Stoynov	2116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 May 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) *14-20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/07/2007 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brock et al., U.S. Patent No. 6,836,849 in view of Zimmer et al., U.S. Patent No.

7,051,215 (per PTO-892, dated 07/31/2006). Brock and Zimmer show the claim limitations in Figures 1-5 and 1-6, respectively.

Regarding claim 1, Brock discloses a rack equipment management system comprising:

rack equipment 301 for participating in information processing activities (column 1, lines 15-21, column 5, lines 35-37, column 7, lines 43-47);

a plurality of management components (plurality of controllers 201 managing the power within each sever 304, rack 301, or cluster 305 – column 7, lines 58-64) for managing power consumption and thermal load of said rack equipment (column 5, lines 20-34, line 56 – column 6, line 7, column 6, lines 59-62, column 7, lines 1-14, lines 43-47),

a communication link for communicatively coupling said rack equipment and said plurality of management components, wherein said communication link communicates information between said plurality of management components and said rack equipment.

[Brock does not specifically state a communication link for communicatively coupling said rack equipment and said plurality of management components, wherein said communication link communicates information between said plurality of management components and said rack equipment. However, Brock discloses the management controller receiving input parameters 204-207 and outputting control signals 202-203 (i.e. communication link for receiving and sending information) used for managing the power of the server components mounted within the rack (column 7, lines

43-47). The same principle is extended through the system hierarchy (column 7, lines 58-64). Thus, Brock inherently discloses a communication link for communicatively coupling said rack equipment and said plurality of management components, wherein said communication link communicates information between said plurality of management components and said rack equipment].

Brock does not specifically state wherein said management control center receives equipment rack policy related information from information processing clients. However, Brock teaches a controller 201 incorporated within the server 304, receiving various policy parameters and quality of service parameters from corresponding customers (i.e. clients), and based upon the received policy parameters, adjusting the power consumption to conform with the server's (or rack of servers – column 7, lines 58-64, FIG. 3, 301) global power policy (column 6, line 59 – column 7, line 22). It is well known in the art in for a server (or server rack) to receive different control parameters or requests from clients and adjust its operation accordingly. Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the above-described controller, receiving various policy parameters and quality of service parameters for the corresponding clients, as suggested by Brock in order to implement wherein said management control center receives equipment rack policy related information from information processing clients. One of ordinary skill in the art would be motivated to do so in order to provide the proper power management for the server rack in accordance with the policy related information received from the information processing clients.

Brock fails to disclose a management control center communicatively coupled to said plurality of management components for coordinating implementation of an equipment rack policy for power consumption and thermal load of said rack equipment.

Zimmer teaches a central power manager (FIG. 6, 600), communicating with the individual blades via a network bus (FIG. 6, OOB), for selectively adjusting the power consumption based on the power management policy, including thermal management (column 6, lines 29-31, column 7, lines 38-53, lines 56-61, column 11, lines 11-37). In addition, Zimmer further teaches implementing the desired power management policy by local adjustments within each blade (i.e. plurality of management components) in combination with the power arbiter (column 12, lines 24-30). In Zimmer, power management in the blade server environment (e.g. racks, Figures 1a-c) is done in a manner under which individual blades share a common power-management policy by employing firmware-based functionality (column 3, lines 27-30). Thus, proactive and aggressive platform power management is achieved without complicating the operating system (column 3, lines 29-32).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the above-described system and power management technique, as suggested by Zimmer with the rack equipment management system disclosed by Brock in order to implement a management control center communicatively coupled to said plurality of management components for coordinating implementation of an equipment rack policy for power consumption and thermal load of said rack equipment. One of ordinary skill in the art would be motivated to do so in order to

implement a proactive and aggressive rack power management without complicating the platform operating system.

Regarding claim 2, Brock further discloses wherein said management component controls said power consumption and said thermal load of said rack equipment within a power consumption and heat dissipation budget (column 2, lines 40-48, column 4, lines 30-39, column 5, lines 17-34, column 7, lines 31-47).

Regarding claim 3, Brock further discloses further comprising an operator interface for presenting disparate information in a unified manner and facilitating adjustments in said rack equipment's operating settings and performance levels (column 8, lines 45-49).

Regarding claim 4, Brock further discloses wherein said management component 201 analyzes information communicated on said communications link and determines applicability of management plan policies to said information (column 2, lines 40-48, column 5, lines 17-34, line 56 – column 6, line 13, column 7, lines 3-14, column 8, lines 1-13).

Regarding claim 5, Brock further discloses wherein said management component directs manipulation of said power consumption and said thermal load of said rack equipment in accordance with management plan policies (column 5, line 56 – column 6, line 13, column 7, lines 3-14, column 8, lines 13-35).

Regarding claim 6, Brock further discloses wherein said management component 201 is included in an intelligent power distribution unit 301, wherein said intelligent

power distribution unit aggregates multiple power line cords from said rack equipment into a smaller number of power line cords at a rack level.

[Brock does not specifically state wherein said intelligent power distribution unit aggregates multiple power line cords from said rack equipment into a smaller number of power line cords at a rack level. However, Brock discloses using the rack for mounting individual servers and providing input distribution power to all stand-alone servers (column 5, lines 9-13 – i.e. the power line cords for the individual stand-alone servers are aggregated at the rack level). Thus, Brock inherently discloses wherein said intelligent power distribution unit aggregates multiple power line cords from said rack equipment into a smaller number of power line cords at a rack level]

Regarding claim 7, wherein said communication link communicates information compliant with protocol permitting automatic configuration of power consumption and heat dissipation for said rack equipment (the process and sequence of steps (i.e. protocol) for receiving input parameters and outputting the requited control parameters over the communication link for regulating the power consumption is executed automatically, based on receiving new policy and service parameters at run time – column 7 line 65 – column 8, line 35, FIG. 4).

Regarding claim 8, Brock discloses a rack equipment management method comprising:

receiving information related to rack equipment management plan (column 6, line 59 – column 7, line 3, lines 43-47, line 66 – column 8, line 1) via a communication link coupled to rack equipment,

[Brock does not specifically state receiving information via a communication link coupled to rack equipment. However, Brock discloses the management controller receiving input parameters 204-207 and outputting control signals 202-203 (i.e. communication link for receiving and sending information) used for managing the power of the server components mounted within the rack (column 7, lines 43-47). The same principle is extended through the system hierarchy (column 7, lines 58-64). Thus, Brock inherently discloses receiving information via a communication link coupled to rack equipment].

analyzing policies of said rack equipment management plan associated with rack equipment operation (column 2, lines 34-40, column 5, lines 17-34, column 8, lines 1-13); and

directing manipulation of power consumption and thermal load associated with said rack equipment (column 2, lines 40-48, column 5, lines 17-34, line 56 – column 6, line 13, column 7, lines 9-14, lines 31-47, column 8, lines 13-25).

Brock does not specifically state wherein said management control center receives equipment rack policy related information from information processing clients. However, Brock teaches a controller 201 incorporated within the server 304, receiving various policy parameters and quality of service parameters from corresponding customers (i.e. clients), and based upon the received policy parameters, adjusting the power consumption to conform with the server's (or rack of servers – column 7, lines 58-64, FIG. 3, 301) global power policy (column 6, line 59 – column 7, line 22). It is well known in the art in for a server (or server rack) to receive different control parameters or

requests from clients and adjust its operation accordingly. Thus, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate the above-described controller, receiving various policy parameters and quality of service parameters for the corresponding clients, as suggested by Brock in order to implement state wherein said management control center receives equipment rack policy related information from information processing clients. One of ordinary skill in the art would be motivated to do so in order to provide the proper power management for the server rack in accordance with the policy related information received from the information processing clients.

Brock fails to disclose the steps of receiving, analyzing, and directing at and from a management control center.

Zimmer teaches a central power manager (FIG. 6, 600), communicating with the individual blades via a network bus (FIG. 6, OOB), for selectively adjusting the power consumption based on the power management policy, including thermal management, where power consumption events are received, analyzed, and appropriate power adjustments are made (column 6, lines 29-31, column 7, lines 38-53, lines 56-61, column 11, lines 11-37). In Zimmer, power management in the blade server environment (e.g. racks, Figures 1a-c) is done in a manner under which individual blades share a common power-management policy by employing firmware-based functionality (column 3, lines 27-30). Thus, proactive and aggressive platform power management is achieved without complicating the operating system (column 3, lines 29-32).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to use the power arbiter, receiving, analyzing, and controlling the platform power consumption, as suggested by Zimmer with the method disclosed by Brock in order to implement the steps of receiving, analyzing, and directing at and from a management control center. One of ordinary skill in the art would be motivated to do so in order to implement a proactive and aggressive rack power management without complicating the platform operating system.

Regarding claim 9, Brock further discloses wherein said rack equipment is associated with information processing (column 1, lines 15-21, column 5, lines 35-37).

Regarding claim 10, Brock further discloses wherein directing includes issuing a command to manipulate operation of equipment associated with supporting rack equipment operations (column 5, lines 17-34 line 56 – column 6, line 13, column 7, lines 9-14).

Regarding claim 11, Brock further discloses wherein said manipulation includes instructions to adjust frequency and voltage of said rack equipment (column 5, lines 17-34 line 56 – column 6, line 13, column 7, lines 9-14).

Regarding claim 12, Brock further discloses wherein said manipulation includes turning on and off said rack equipment (column 5, lines 29-34, column 6, 9-13).

Regarding claim 13, Brock further discloses automatically adjusting said rack equipment management plan interactively (the process and sequence of steps for receiving input parameters and outputting the requited control parameters (i.e. interacting) over the communication link for regulating the power consumption is

executed automatically, based on receiving new policy and service parameters at run time – column 7 line 65 – column 8, line 35, FIG. 4).

Response to Arguments

Applicant's arguments filed 05/07/2007 have been fully considered but they are not persuasive.

In essence, the applicant argued that the Brock reference does not necessarily teach a communication link for communicatively coupling the rack equipment and the plurality of management components.

The examiner respectfully disagrees. In order for any of the plurality of management components to be managed by the power management controller (addressed in the rejections for claims 1 and 8 above), the power management controller must necessarily communicate with each of the plurality of management components. In addition the received policy parameter (regardless of the reception means) by the power management controller (within the rack equipment) are further communicated to the plurality of management components, thus necessarily coupled via a communication link.

In addition, the applicant argued that the Zimmer reference does not teach a management control center receives equipment rack policy related information from information processing clients. Further, the motivation to combine Zimmer with Brock for this limitation is argued.

These arguments are moot, because the Zimmer reference is not used for this limitation. Brock addresses this limitation, as indicated in the rejection of claims 1 and 8.

Same arguments were presented with respect to independent claim 8 and addressed previously.

Thus, independent claims 1 and 8, and claims 2-7 and 9-13 (being dependent of claims 1 and 8, respectively) stand rejected as indicated in this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Stoynov whose telephone number is (571) 272-4236. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571) 272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

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5/29/07